

Background Work Supporting the Evaluation of Feasibility and Initial Design of an Interim Cap for the Aerovox Nearshore Area - 17FEB2017

Information Requirement	Relevance	A. Scope of Work - Minimal	B. Scope of Work - Expanded
An initial approximation of interim cap performance objectives is key in fully scoping the information requirements 1-11 below.			
1	Physical characterization of the nearshore area including the full width of the waterway	- presentation of data - impact of cap placement relative to full waterway	- use existing bathymetry and GIS to create cross sections and calculate areas
2	3D extent of DNAPL beneath the nearshore area	- determine the extent of required cap - determine areas with seepage potential	- use existing boring data to create conservative confirmed/probable and potential zones
3	Groundwater discharge zones and discharge rates in the nearshore area	- design parameter for the cap - assessment of potential alteration of groundwater flow field by the cap	- use existing groundwater flow data from the Aerovox Phase 2 and 3 reports for screening level assessment - estimate conservative/"worst-case" potential discharge scenarios to determine if there are significant data gaps
4	Flux of dissolved phase contaminants	- design parameter for the cap - assess impacts of delayed removal of source	- use existing groundwater data and flux calculation from the Aerovox Phase 2 and Phase 3 reports for screening level assessment
5	Physical characterization of the ambient sediment	- design parameter for the cap	- conservative assumption of sediment properties based on previous experience and data from comparable sites - add transport to the groundwater flow model application to evaluate effectiveness/impact of the cap - field measurement of flux - sub-bottom profiling - CPT - collection of cores for lab analysis

6	Gas ebullition	- design parameter for the cap	- literature review of cap design and performance at comparable sites - Perform "sensitivity" analysis to assess gas production rates that would be problematic	- enlist support of an ebullition specialist + collection of site specific data
7	Wave and current energy	- design parameter for the cap	- pull summary information from existing reports and hydrodynamic modeling	- boat based measurements - localized hydrodynamic model application
8	Ice impacts	- design parameter for the cap	- literature review of impacts - empirical data from the harbor	- ice scour model application
9	Sea level rise	- design parameter for the cap	- plot expected trends on cross sections - generalize changes to current/wave regime	- modification of hydrodynamic model
10	Construction complexity/impacts	- incorporate into cost estimate - defensibility of remedy	- review of comparable sites	- if cost estimate is high enough, perform limited value engineering study
11	Ecological functionality of completed cap and impact on surrounding area	- design parameter for the cap - defensibility of remedy	- definition of biologically active zone - review of comparable sites - calculation in changes to riverway cross sectional area	- incorporation into updated functions and values assessment

Cap for the Aerovox Nearshore Area - 17FEB2017

Lead(s)	Estimated Schedule	Estimated Level of Effort
Mike Morris + Dan A. Groher B.		A. B.
Mike Morris + Dan A. Groher B.		A. B.
Mike Morris + Dan A. Groher B.		A. B.
Mike Morris + Dan A. Groher B.		A. B.
TBD A. B.		A. B.

TBD	A. B.	A. B.
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Steve Wolf	A. B.	A. B.
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Steve Wolf	A. B.	A. B.
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Steve Wolf	A. B.	A. B.
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TBD	A.	A.
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